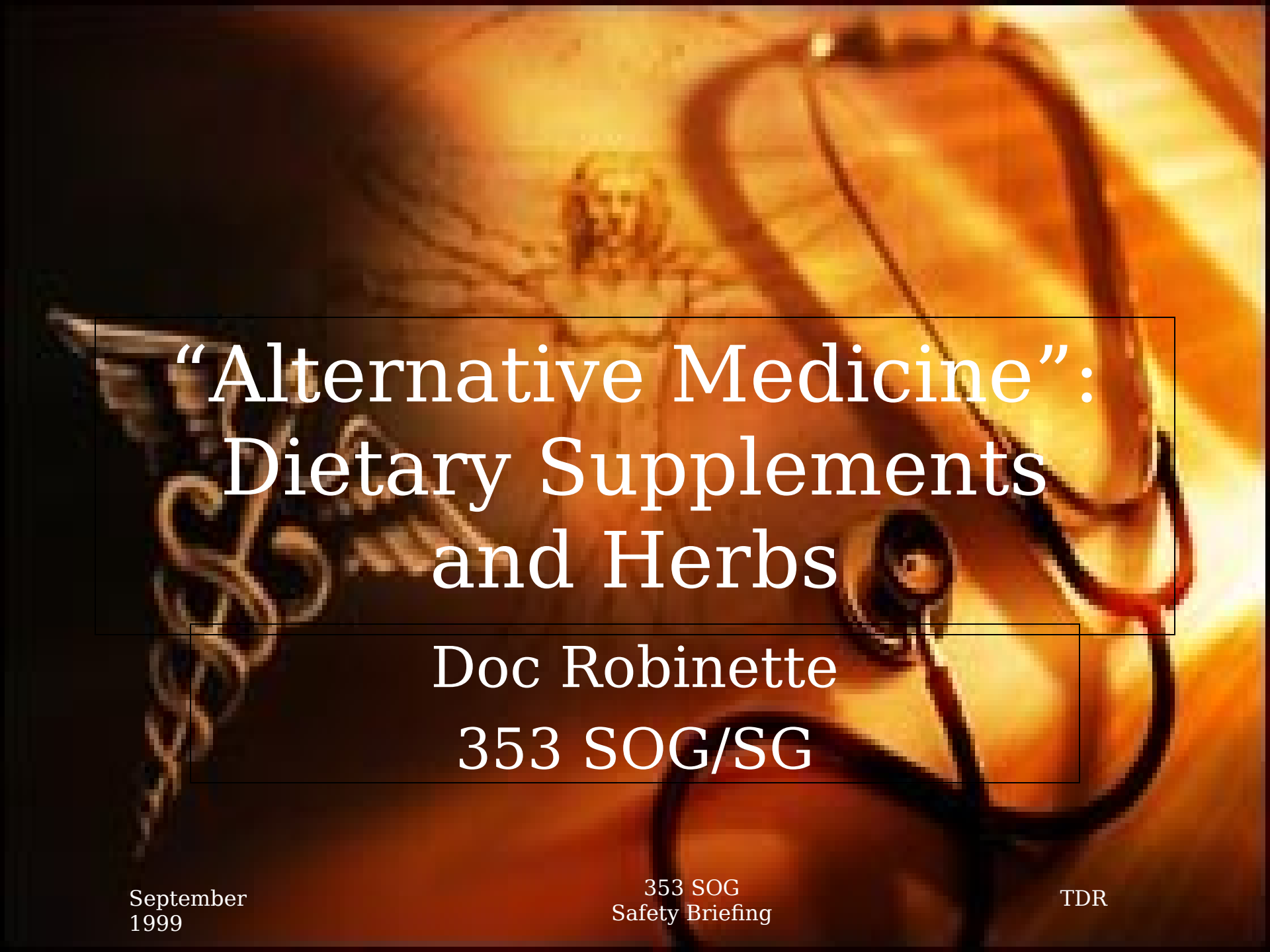

“Alternative Medicine”: Dietary Supplements and Herbs

Doc Robinette
353 SOG/SG

- 2000 B.C. Here, eat this root.
- 1000 A.D. That root is heathen. Here, say this prayer.
- 1850 A.D. That pray is superstition. Here, drink this potion.
- 1940 A.D. That potion is snake oil. Here, swallow this pill.
- 1985 A.D. That pill is ineffective. Here, take this antibiotic.
- 2000 A.D. That antibiotic is artificial. Here, eat this root.

Types of Dietary Supplements

- Herbs: botanical products with various medicinal active ingredients, often the source of medications (Foxglove = Digoxin)
- Glandular products: Hormones - melatonin, dehydroepiandrosterone/DHEA, squalamine
- Vitamins: Biologically active chemicals utilized by the body and required for life
- Amino acids: Building blocks of proteins
- Minerals: chemical elements, i.e. K, Ca, Cr

Dietary Supplements

- Antioxidants: Co-enzymeQ10/ubiquinone, Vit E, C, and beta carotene
- Phospholipids: Lecithin/phosphatidyl choline
- Creature products: Shark cartilage, Bee pollen
- Teas: Generally herbs, alone or in combination, many have laxative effects
  - (Senna, Aloe, Castor oil, Ura ursi)

Scope of Herbal Use

- Americans are expected to spend $4.3 billion this year on herbal supplements such as saw palmetto, ginseng and others that promise to do everything from lifting depression and shrinking men's swollen prostates to fighting colds and easing stress.
  - http://www.cnn.com/HEALTH/9810/12/herbal.medicines.ap/index.html

Plants with sedative pr

- Hops
- Hemlock
- Opium Popp
- Passion flow
- Skullcap
- Wild lettuce
- Wolfsbane

Plants affecting blood pressure

- Ephedra
- Indian Snakeroot

Hallucinogenic plants

- Magic mushroom
- California poppy
- Kava-kava
- Mandrake
- Nutmeg
- Periwinkle
- Thorn apple
- Yohimbe bark

Cardiac active plants

- Foxglove (Digitalis), Yellow and purple
- Squill/White squill
- Broom
- Lilli of the valley
- Pheasant’s eye

Liver Toxic plants

- Germander
- Comfrey
- Chapparal
- Life root

Kava kava Example

- Piper methysticum
  - Plant native to Pacific Island region
  - Active ingredient: Kava lactones/pyrones
  - Analgesic, anestheic, urinary anti-inflammatory, antiseptic, and diuretic effects
  - Anxiolytic similar to benzodiazepines (Valium)
  - Therapeutic range: 50-70 mg 3X/day
  - Side effects: kava dermopathy (scaly rash)
  - Potentiates: barbiturates, xanax, alcohol

Kava forms

- Preparations:
  - Dry bulk, capsules and tinctures

Problems

- Psycho-active drug
- Half-life depends upon metabolism
  - Slowed if liver disease or in combination with other liver metabolized drugs (ethanol)
- Concentration of drug in unregulated commercial products vary greatly
- Warning: Long-term and large dose associated with liver, skin, eye and spinal cord damage

Self Medication Aircrew use

- Very restrictive IAW AFI 48-123
  - Topical medication
  - Single dose OTC aspirin, tylenol, motrin for self limiting condition
  - Antacids for mild isolated upper GI distress
  - Hemorrhoidal suppositories
  - Pepto-bismol for mild diarrhea without fever
  - Afrin as get me down

Illegal medication use

- Androgenic Steroids
- Narcotics, PCP, marijuana (THC to include hemp oil), opiates, and cocaine

Bottom Line

- Be careful. Many alternative therapies are harmless, but some can be dangerous. Herbs may be "natural," but that does not necessarily mean they are safe.
- Yes, some have been used for thousands of years, but most of the herbs sold in your supermarket or drug store have not been tested for their effectiveness or safety.
- It may be illegal and detectable.

- Many herbs are powerful drugs. Some can be fatal while others can cause heart attacks, seizures or liver failure.
- Unlike most over-the-counter preparations, they are not regulated by the Food and Drug Administration, and are not monitored for content or quality.
  - (A California health agency, for example, recently found that many imported Asian patent medicines were contaminated with lead, arsenic, and mercury, as well as "undeclared" drugs.)

References

- Ref: http://onhealth.com/ch1/in-depth/item/item,26348_1_1.asp
- National Library of Medicine
- *Flightlines*, Society of USAF Flight Surgeons, Summer 1999
- Guide to Alternative Medicine, Isadore Rosenfeld,
- 1997http://www.cnn.com/HEALTH/9810/12/herbal.medicines.ap/index.html